

[54] **HYDROPHILIC OR HYDROGEL CARRIER SYSTEMS SUCH AS COATINGS, BODY IMPLANTS AND OTHER ARTICLES**[75] Inventors: **Donald Edward Hudgin**, Princeton Junction; **Edgar Allan Blair**, Cranbury, both of N.J.[73] Assignee: **Princeton Polymer Laboratories, Incorporated**, Plainsboro, N.J.

[*] Notice: The portion of the term of this patent subsequent to July 2, 1991, has been disclaimed.

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[52] **U.S. Cl.**..... **260/30.4 N**; 3/1; 3/1.4; 3/1.5; 3/1.91; 128/348; 128/350 R; 128/127; 128/334 R; 260/2.5 AD; 260/2.5 A; 260/32.6 N; 260/75 NK; 260/77.5 AP; 260/77.5 AQ; 260/75 NQ; 260/77.5 AS; 260/77.5 AR; 260/2 EN; 424/78; 424/81; 428/425[51] **Int. Cl.²**..... **C08G 18/48**; C08G 18/30; C08G 18/32; A61F 1/00[58] **Field of Search**.. 260/2.5 AD, 75 NK, 77.5 AP, 260/2.5 A, 30.4 N, 32.6 N, 77.5 AQ; 239/6, 57; 3/1, 1.4; 424/78[56] **References Cited****UNITED STATES PATENTS**

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Primary Examiner—H.S. Cockeram*Attorney, Agent, or Firm*—Curtis, Morris & Safford[57] **ABSTRACT**

Improved active agent systems with novel carriers as membrane, release, and coating polymers for said active agents; the polymers are water absorptive polyurethane polymers prepared from resins having a low ratio of carbon to oxygen to nitrogen or having ionic, quaternary ammonium or salt groups in the resin backbone and a low amount of isocyanate; the water absorptivity of the polyurethane polymers is above 10%, preferably above 20%, and these polymers may range to completely gel-like, high water absorptive polymers; these active agent polymers are useful as in medicinal, insecticidal, pesticidal, algacidal, etc. applications; as well as zero release agents, body implants and coatings requiring hydrophilic properties; other use for the active agent systems are in sensing membranes or coatings or ion transport recognition devices such as in gaseous or liquid media; as a hydrogel providing a leachable matrix wherein the leaching agent may be body fluids, e. g., animals or human, e. g., productive livestock and domestic animals and/or pets, or animals used in medicinal or veterinary research, e. g., monkeys, mice, dogs, hamsters, rabbits, guinea pigs, cats, etc.

23 Claims, No Drawings